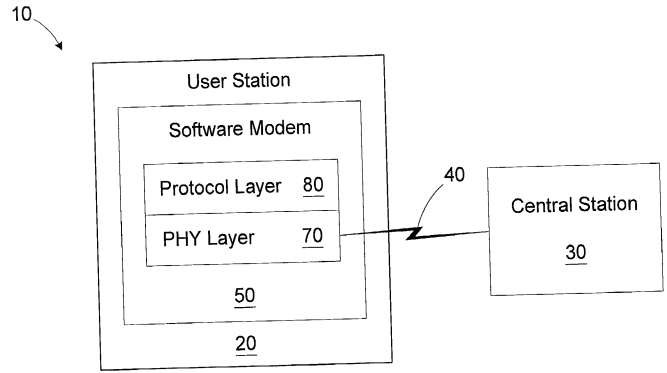
10
User Station
Software Modem
Protocol Layer 80
PHY Layer 70
50
20
40
Central Station
30

Figure 1

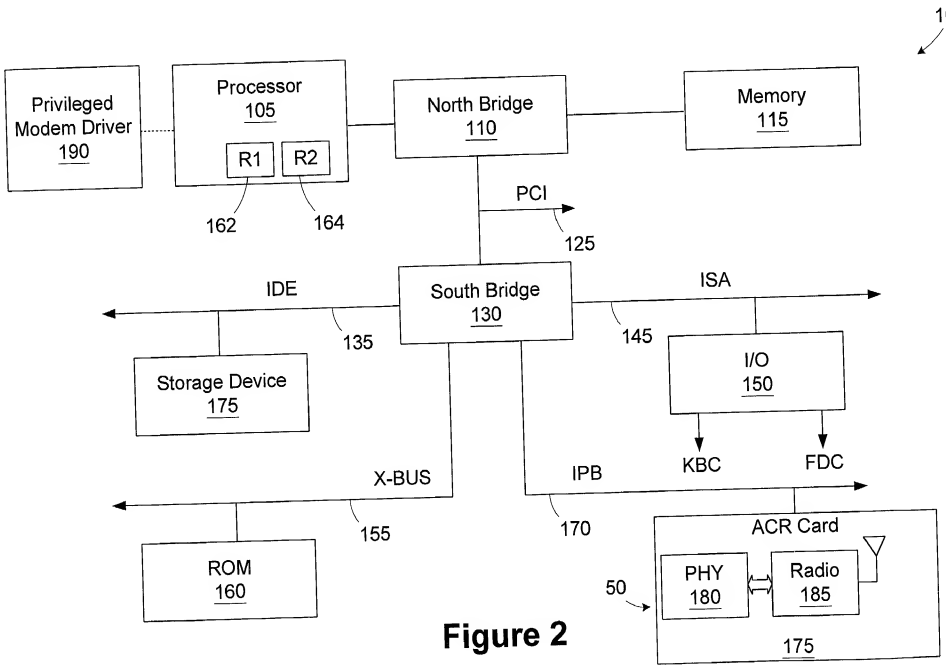
100
Privileged Modem Driver 190
Processor 105
R1
R2
162
164
North Bridge 110
Memory 115
PCI
125
IDE
South Bridge 130
ISA
135
145
Storage Device 175
I/O 150
KBC
FDC
X-BUS
IPB
155
170
ROM 160
ACR Card
PHY 180
Radio 185
50
175

Figure 2

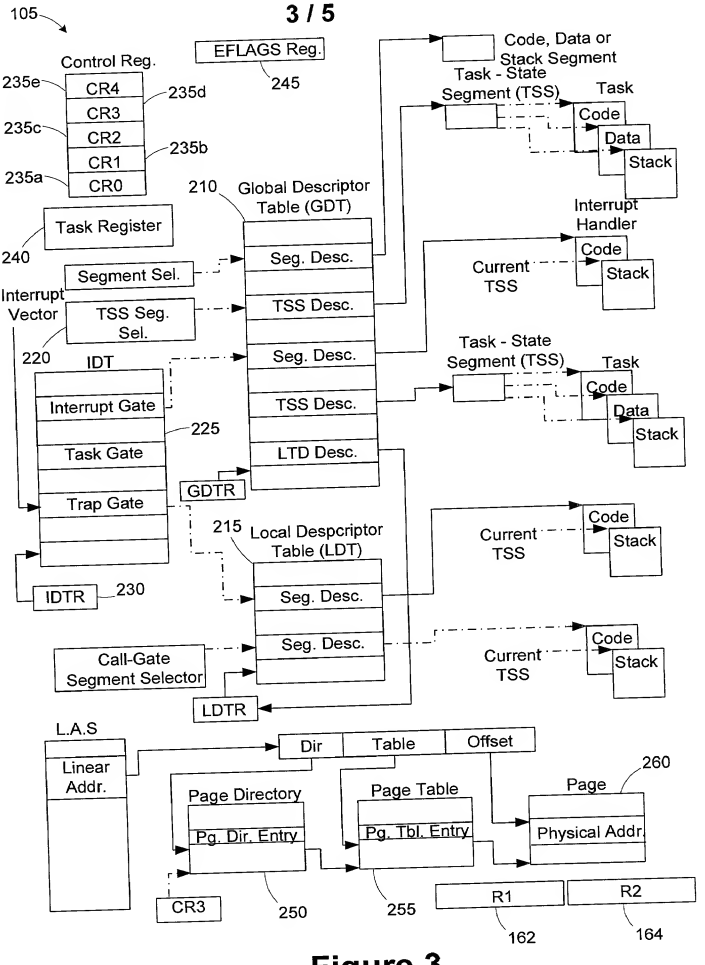
105
EFLAGS Reg.
245
Control Reg.
235e
CR4
235d
CR3
235c
CR2
CR1
235b
235a
CR0
Task Register
240
Segment Sel.
Interrupt Vector
TSS Seg. Sel.
220
IDT
Interrupt Gate
Task Gate
225
Trap Gate
IDTR
230
210
Global Descriptor Table (GDT)
Seg. Desc.
TSS Desc.
Seg. Desc.
TSS Desc.
LTD Desc.
GDTR
215
Local Despcriptor Table (LDT)
Seg. Desc.
Seg. Desc.
Call-Gate Segment Selector
LDTR
Code, Data or Stack Segment
Task - State Segment (TSS)
Task
Code
Data
Stack
Interrupt Handler
Code
Stack
Current TSS
Task - State Segment (TSS)
Task
Code
Data
Stack
Code
Stack
Current TSS
Code
Stack
Current TSS
L.A.S
Linear Addr.
Dir
Table
Offset
260
Page
Page Directory
Pg. Dir. Entry
Page Table
Pg. Tbl. Entry
Physical Addr.
CR3
250
255
R1
R2
162
164

Figure 3

TP6040" 20070060

	330 PRIVILEGED INSTRUCTIONS	325 ACCESS
350	access to CR3 register	operating system access only
360	access to global descriptor table	operating system and device drivers access only
365	access to interrupt descriptor table register	global access
370	access to task register	operating system and device drivers access only
380	access to PHY hardware	privileged modem driver access only
	● ● ●	● ● ●

Figure 4

Figure 5

Initialize super privileged code
410
Execute instruction
420
Privileged instruction?
430
yes
no
Generate an exception
440
Allow instruction to complete
435
Trap the exception
450
Access allowed?
460
yes
no
Deny access
470
Execute instruction
465